

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Piney Creek

Waterbody Segment at a Glance:

County: Oregon
Nearby Cities: Alton
Length of Impairment: 0.1 mile
Pollutant: Chlorine
Source: Alton Municipal
Wastewater
Treatment Plant



State map showing location of watershed

TMDL Priority Ranking: Medium

Description of the Problem

Beneficial uses of Piney Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life and Human Health associated with Fish Consumption.

Use that is impaired

- Protection of Warm Water Aquatic Life.

Standards that apply

- The specific criteria (standards) for chlorine are found in Missouri's Water Quality Standards, 10 CSR 20-7.031 Table A, page 17. The standard is 0.01 milligrams per liter (mg/L) or parts per million, expressed as total residual chlorine (TRC).

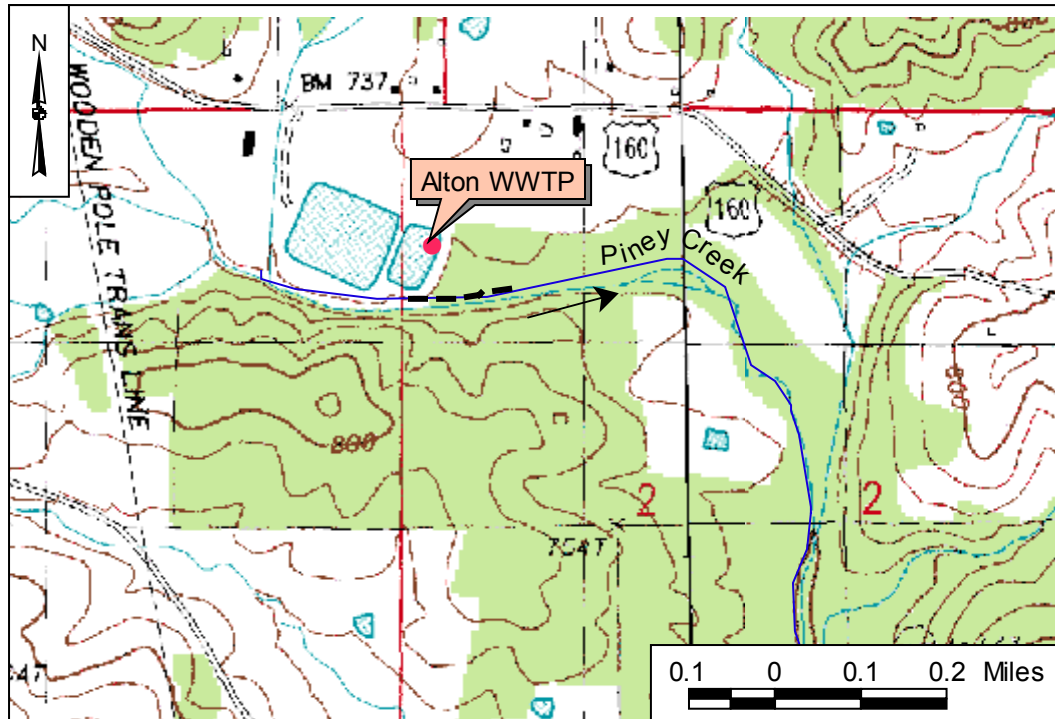
The effluent discharged from the Alton Wastewater Treatment Plant (WWTP) dominates the water in Piney Creek when water levels are low. Low flow conditions usually occur during late summer and early fall, when rain is less frequent. The presence of chlorine in the stream under low flow conditions creates an unsuitable environment for most species of fish and invertebrates.

The Missouri Department of Natural Resources Stream Survey Sampling Report from 1983 noted "reduced fauna just below plant." The 1993 Stream Survey Sampling Report noted "no aquatic life; presence of chlorine" and lists the stream as "non-attainment for any use." A chlorine odor was also reported. Piney Creek is a "losing" stream. This is a stream where much or all of its flow goes underground and enters the groundwater system. The Water Quality Standards require all

discharges to losing streams to be disinfected. The Alton WWTP uses chlorine as a disinfectant to kill bacteria. The standards also require dechlorination (a process used to remove chlorine) when a discharge occurs in a stream the size of Piney Creek.

A Total Maximum Daily Load (TMDL) document has been completed for Piney Creek. The TMDL calls for the Alton WWTP permit to be revised to include dechlorination. The present permit allows 0.1 mg/L of Total Residual Chlorine (TRC) in the effluent, but this amount is not protective of aquatic life. A limit of 0.01 mg/L will protect aquatic organisms. The U.S. Environmental Protection Agency approved this TMDL Jan. 12, 2001. The permit is being modified to include this lower TRC limit. Quarterly monitoring of TRC in the effluent is also being required. For general information on TMDL issues, see the Environmental Protection Agency's TMDL Web page: www.epa.gov/owow/tmdl/. A map of the area is found below.

Map of Alton WWTP Lagoons and Impaired Segment Piney Creek in Oregon County, Missouri



--- Impaired segment → Direction of flow

For more information call or write:

Missouri Department of Natural Resources, Water Pollution Control Program
P.O. Box 176, Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-1300 office, (573) 751-9396 fax
Program Home Page: www.dnr.state.mo.us/wpscd/wpcp/index.html